UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,163	04/26/2001	Tomohiro Kita	206450US2	6884

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EXAMINER
DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/842,163	KITA, TOMOHIRO
Office Action Summary	Examiner	Art Unit	
	Raymond S. Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>31 October 2005</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1 - 9</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1 - 9</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>26 April 2001</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some * c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>0703</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1, 2, and 9 have been considered.
but are moot in view of the new ground(s) of rejection. Examiner has carefully
considered the arguments of Applicants' representatives from the interview on August
19, 2005 and has determined that Montpetit does teach the claimed limitation of a
second forward satellite channel having a larger capacity than the first satellite channel.
A further investigation of Montpetit reveals a first uplink or forward channel which is a
contention channel and a second channel forward or uplink channel which is the
channel for rate-based and volume-based transmissions on the uplink (See Columns 9
lines 1 – 47, Column 10 lines 1 – 17). The satellite uplink comprises uplink channels
thus the uplink bandwidth uplink channel bandwidth. Since the uplink bandwidth
comprises the uplink channel bandwidth the allocation of uplink bandwidth comprises
allocation of uplink channel bandwidth. The uplink channel is used to transmit a
plurality of amounts of data at a plurality of data rates (See Column 9 lines 1 – 47).
Contention channels in satellite systems are typically used for bandwidth request
messages. These channels are not used for heavy data traffic because of their lower
capacity than an uplink channel used for rate-based and volume-based transmissions.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Courtney et al. (US 6,665,518) in view of Montpetit (US 6,366,761).

Regarding Claim 1, Courtney teaches a method for allocating satellite channel

used in satellite communications system transmitting data bi-directionally between

central station and a plurality of remote stations via a satellite in which a plurality of first

forward satellite channels used for transmitting data from said each remote station are

fixedly set beforehand (Figure 1, Column 3 lines 49 – 59, Column 4 lines 21 – 36,

Column 14 lines 31 – 36, the controller can be a part of a ground station or central

station architecture).

Courtney does not teach allocating a second forward satellite channel set

beforehand with a larger capacity than that of said first satellite channel apart therefrom

for data transmission, in case that a predetermined condition related to the data

transmission from the remote station is satisfied, to the remote station satisfying said

condition from the central station.

Montpetit teaches allocating a second forward satellite channel set beforehand

with a larger capacity than that of said first satellite channel apart therefrom for data

transmission, in case that a predetermined condition related to the data transmission

from the remote station is satisfied, to the remote station satisfying said condition from

the central station (Column 9 lines 1 – 47, Column 10 lines 1 – 17, Column 13 lines 43 –

58, the rules determine if certain conditions are satisfied such as no congestion in the

network communication links, contention channels in satellite systems are typically used

for bandwidth request messages, these channels are not used for heavy data traffic

because of their lower capacity than an uplink channel used for rate-based and volume-

based transmissions).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Courtney with the allocation method of

Montpetit for the purpose of providing a system with bandwidth on-demand capability

thereby enabling the capacity for data transmission to be efficiently allocated as taught

by Montpetit.

Regarding Claim 2, Courtney teaches a satellite communications system for

transmitting data from a central station to a plurality of remote stations through

backward satellite channel and for transmitting data from said plurality of remote

stations to said central station through a fixedly predetermined plurality of forward

satellite channels (Figure 1, Column 3 lines 49 – 59, Column 4 lines 21 – 36, Column

14 lines 31 – 36, the controller can be a part of a ground station or central station

architecture).

Courtney does not teach wherein said remote station includes means for

transmitting a channel request data for use permission of the second satellite channel

being set beforehand apart from said first forward satellite channel and having a larger

capacity than that of said first satellite channel; and said central station includes means

for allocating said second forward satellite channel for the purpose of data transmission

to the remote station on condition that said second forward satellite channel being

unoccupied.

Montpetit teaches wherein a remote station includes means for transmitting a

channel request data for use permission of the second satellite channel being set

beforehand apart from said first forward satellite channel and having a larger capacity

than that of said first satellite channel (Column 9 lines 1 – 47, Column 10 lines 1 – 17,

contention channels in satellite systems are typically used for bandwidth request

messages, these channels are not used for heavy data traffic because of their lower

capacity than an uplink channel used for rate-based and volume-based transmissions);

and a central station includes means for allocating said second forward satellite

channel for the purpose of data transmission to the remote station on condition that

said second forward satellite channel being unoccupied (Column 13 lines 43 – 58, the

rules determine if certain conditions are satisfied such as no congestion in the network

communication links, if there is no congestion there will be channels that are

unoccupied).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Courtney with the allocation circuitry of

Montpetit for the purpose of providing a system with bandwidth on-demand capability

thereby enabling the capacity for data transmission to be efficiently allocated as taught by Montpetit.

Regarding Claim 6, Courtney teaches a satellite communications system for transmitting data from a central station to a plurality of remote stations through backward satellite channel and for transmitting data from said plurality of remote stations to said central station through a fixedly predetermined plurality of forward satellite channels (Figure 1, Column 3 lines 49 – 59, Column 4 lines 21 – 36, Column 14 lines 31 – 36, the controller can be a part of a ground station or central station architecture).

Courtney does not teach data accumulating means for accumulating respectively in each said remote station the amount of data transmitted from said remote station during the data transmission; discriminating means for discriminating whether the data accumulated by said data accumulating means exceeds a reference amount of data or not; and channel allocating means for allocating a second forward satellite channel set beforehand with a larger capacity than said first forward satellite channel apart therefrom to said remote station for data transmission in case that said accumulated amount of data is discriminated to exceed said reference amount of data by said discriminating means.

Montpetit teaches data accumulating means for accumulating respectively in each said remote station the amount of data transmitted from said remote station during the data transmission (Figures 3, 6, Column 7 lines 23 – 30, Column 9 lines 1 – 39); discriminating means for discriminating whether the data accumulated by said data

accumulating means exceeds a reference amount of data or not (Column 9 lines 1 –

39); and channel allocating means for allocating a second forward satellite channel set

beforehand with a larger capacity than said first forward satellite channel apart

therefrom to said remote station for data transmission in case that said accumulated

amount of data is discriminated to exceed said reference amount of data by said

discriminating means (Column 9 lines 40 – 47, Column 10 lines 1 – 17, contention

channels in satellite systems are typically used for bandwidth request messages, these

channels are not used for heavy data traffic because of their lower capacity than an

uplink channel used for rate-based and volume-based transmissions).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Courtney with the allocation circuitry of

Montpetit for the purpose of providing a system with bandwidth on-demand capability

thereby enabling the capacity for data transmission to be efficiently allocated as taught

by Montpetit.

Regarding Claim 3, Courtney in view of Montpetit teaches all of the claimed

limitations recited in Claim 2. Montpetit further teaches wherein said means for

transmitting said channel request data transmits said channel request data to said

central station in case that a request-to-send data larger than a predetermined capacity

is generated; and said second forward satellite channel is a channel for transmitting

said data larger than the predetermined capacity (Column 9 lines 1 – 47).

Regarding Claims 4, 7, Courtney in view of Montpetit teaches all of the claimed

limitations recited in Claims 2, 6. Courtney further teaches wherein said plurality of first

forward satellite channel corresponds to a predetermined first uplink frequency band and also corresponds to either one of the plural time slots set within a predetermined frame (Column 3 lines 49 – 59, the frequency channels can be assigned down to any level of granularity thus the frequency channels can be in different frequency bands); and said second forward satellite channel corresponds to a second uplink frequency band different from said first forward frequency band (Column 3 lines 49 – 59, the frequency channels can be assigned down to any level of granularity thus the frequency channels can be in different frequency bands).

Regarding Claims 5, 8, Courtney in view of Montpetit teaches all of the claimed limitations recited in Claims 2, 6. Courtney further teaches wherein said plurality of first forward satellite channel corresponds to a predetermined first uplink frequency band and to m pieces among the plural time slots set within a predetermined frame (Column 3 lines 49 – 59, the time slots can be assigned down to any level of granularity thus the time slots can be divided into smaller time slices); and said second forward satellite channel corresponds to n (n>m) pieces of the time slot other than said time slots set within said first uplink frequency band (Column 3 lines 49 – 59, the time slots can be assigned down to any level of granularity thus the time slots can be divided into smaller time slices).

Regarding Claim 9, Courtney teaches an earth station for satellite communications transmitting data to other plurality of earth stations through backward satellite channel and receiving the data transmitted from said other plurality of earth stations through fixedly predetermined plurality of first forward satellite channels

(Figure 1, Column 3 lines 49 – 59, Column 4 lines 21 – 36, Column 14 lines 31 – 36,

the controller can be a part of a ground station or central station architecture).

Courtney does not teach discriminating means for discriminating whether a

predetermined condition related to the data transmission from either one of said other

earth stations is satisfied or not; channel allocating means for allocating transmission a

second forward satellite channel set beforehand with a larger capacity than that of said

first forward satellite channel apart therefrom for data transmission in case that said

predetermined condition is satisfied by said discriminating means, to the other earth

station satisfying said condition.

Montpetit teaches discriminating means for discriminating whether a

predetermined condition related to the data transmission from either one of said other

earth stations is satisfied or not (Column 9 lines 1 – 47, Column 13 lines 43 – 58, the

rules determine if certain conditions are satisfied such as no congestion in the network

communication links); channel allocating means for allocating transmission a second

forward satellite channel set beforehand with a larger capacity than that of said first

forward satellite channel apart therefrom for data transmission in case that said

predetermined condition is satisfied by said discriminating means, to the other earth

station satisfying said condition (Column 9 lines 40 – 47, Column 10 lines 1 – 17,

contention channels in satellite systems are typically used for bandwidth request

messages, these channels are not used for heavy data traffic because of their lower

capacity than an uplink channel used for rate-based and volume-based transmissions).
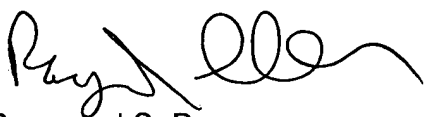
It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Courtney with the allocation circuitry of

Montpetit for the purpose of providing a system with bandwidth on-demand capability

thereby enabling the capacity for data transmission to be efficiently allocated as taught

by Montpetit.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Raymond S. Dean whose telephone number is 571-272-

7877. The examiner can normally be reached on 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Raymond S. Dean
December 21, 2005

NAY MAUNG
SUPERVISORY PATENT EXAMINER